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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,283	05/09/2005	Kazumasa Fujimoto	050287	2950

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EXAMINER

THOMAS, ERIC W

ART UNIT PAPER NUMBER

2831

DATE MAILED: 04/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/534,283	<b>Applicant(s)</b> FUJIMOTO ET AL.	
	<b>Examiner</b> Eric Thomas	<b>Art Unit</b> 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 3/9/06.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 and 5 is/are allowed.
- 6) ☒ Claim(s) 1 and 4 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 6,052,273) in view of JP 04-071214 ('214).

FIG. 1

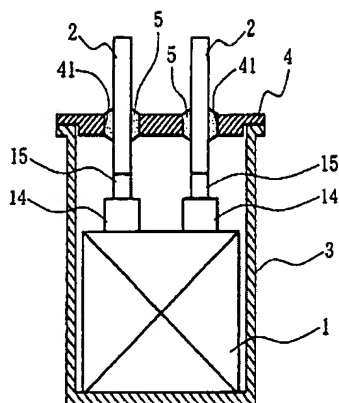
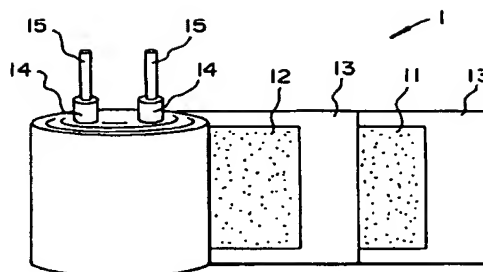


FIG. 14



Inoue et al. disclose in fig. 1-2, 14 discloses a solid electrolytic capacitor comprising a capacitor element (1) which includes an anode foil (11) and a cathode foil (12) rolled with a separator (13) interposed therebetween, and a layer of a solid electrolyte provided therein, wherein the cathode foil is formed from aluminum.

Inoue et al. disclose the claimed invention except for the cathode foil is coated with a film of a titanium-containing compound metal nitride.

'214 teaches the use of a film coating formed on a cathode aluminum foil, wherein the film comprises a carbon nitride of titanium.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form a film coating comprising TiCN on the cathode foil of Inoue et al., since such a modification improve the electrical properties (capacitance) of the capacitor.

Regarding claim 4, Inoue et al. disclose the electrolyte provided in the capacitor element is an electrically conductive polythiophene polymer (see col. 15 lines 50-60).

***Allowable Subject Matter***

2. Claims 3 and 5 are allowed.
3. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach or suggest (taken in combination with the other claimed features) a solid electrolytic capacitor wherein the titanium-containing metal nitride is selected from the group consisting of aluminum titanium nitride, chromium titanium nitride, and zirconium titanium nitride (claim 2); and the film formed on the cathode foil continuously varying from the titanium nitride layer to the titanium layer toward the cathode foil (claims 3, 5).

***Response to Arguments***

5. Applicant's arguments filed 3/9/06 have been fully considered but they are not persuasive.

✓ -Applicant's arguments that Inoue et al. as modified by JP 04-071214 does not disclose the claimed invention of claim 1, is not persuasive.

Inoue et al. disclose in fig. 1-2, 14 discloses a solid electrolytic capacitor comprising a capacitor element (1) which includes an anode foil (11) and a cathode foil (12) rolled with a separator (13) interposed therebetween, and a layer of a solid electrolyte provided therein, wherein the cathode foil is formed from aluminum.

Inoue et al. disclose the claimed invention except for the cathode foil is coated with a film of a titanium-containing compound metal nitride.

'214 teaches the use of a film coating formed on a cathode aluminum foil, wherein the film comprises a carbon nitride of titanium.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form a film coating comprising TiCN on the cathode foil of Inoue et al., since such a modification improve the electrical properties (capacitance) of the capacitor.

\*It is noted that claim 2 no longer recites the titanium carbonitride as being included in the titanium containing compound metal nitrides and thereby distinguishes the claimed subject matter over the teachings of JP 04-071214.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Thomas whose telephone number is 571-272-1985. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:45 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**ERIC W. THOMAS**  
**PRIMARY EXAMINER**